IN THE CLAIMS:

Following entry of the present amendment, the claims are as follows:

Claim 1 (canceled).

Claim 2 (currently amended). A nonvolatile display ~~as in claim 1~~ comprising:

a plurality of electrodes arranged opposite each other, wherein the electrodes are arranged in the form of cross bar array for applying electric field to selected areas of the nonvolatile solid state electro-optic medium; and

a nonvolatile solid state electro-optic medium disposing between the electrodes,

wherein the nonvolatile solid state electro-optic medium is a perovskite material having magnetoresistive effect under the influence of an electric field.

Claim 3 (canceled).

Claim 4 (currently amended). A nonvolatile display ~~as in claim 1 further~~ comprising:

a plurality of electrodes arranged opposite each other;

a nonvolatile solid state electro-optic medium disposing between the electrodes,

wherein the nonvolatile solid state electro-optic medium is a perovskite material having magnetoresistive effect under the influence of an electric field; and

a plurality of polarizer layers sandwiching the nonvolatile solid state electro-optic medium, the polarizer layers polarizing incident light.

Claims 5-10 (canceled).

Claim 11 (previously presented). A nonvolatile solid state electro-optic modulator comprising

a first electrode;

a second electrode offset from the first electrode;

a nonvolatile solid state electro-optic medium disposing in the close proximity of the two electrodes whereby the optical properties of the electro-optic medium can be influenced by the electric field established by the two electrodes; and

a plurality of optical waveguides supported in the electro-optic medium;

wherein the nonvolatile solid state electro-optic medium is a perovskite material having magnetoresistive effect under the influence of an electric field.

Claim 12 (previously presented). A modulator as in claim 11 further comprising a plurality of insulator layers disposing between the electrodes and the electro-optic medium.

Claim 13 (previously presented). A modulator as in claim 11 further comprising a plurality of cladding layers covering the waveguides.

Claim 14 (previously presented). A modulator as in claim 11 wherein the optical waveguides are embedded in the electro-optic medium.

Claim 15 (previously presented). A modulator as in claim 11 wherein the modulator further comprises a third electrode and functions as an interferometer.

Claim 16 (previously presented). A modulator as in claim 11 wherein the modulator comprises one optical waveguide and functions as a phase modulator.

Claim 17 (previously presented). A modulator as in claim 11 wherein the modulator comprises two optical waveguide and functions as an amplitude modulator, a directional coupler or a waveguide switch.

Claim 18 (previously presented). A modulator as in claim 11 wherein the nonvolatile solid state electro-optic medium is a manganite.

Claim 19 (previously presented). A modulator as in claim 11 wherein the nonvolatile solid state electro-optic medium is a manganite having a $Re_{1-x}Ae_xMnO_3$ structure with Re being a rare earth elements and Ae being an alkaline earth elements.

Claim 20 (previously presented). A modulator as in claim 11 wherein the nonvolatile solid state electro-optic medium is selected from a group consisting of $PrCaMnO_3$ (PCMO), $LaCaMnO_3$ (LCMO), $LaSrMnO_3$ (LSMO), $LaBaMnO_3$ (LBMO), $LaPbMnO_3$ (LPMO), $NdCaMnO_3$ (NCMO), $NdSrMnO_3$ (NSMO), $NdPbMnO_3$ (NPMO), and $LaPrCaMnO_3$ (LPCMO).